

Wednesday, April 13, 2011 2:56:55 PM



~~PRELIMINARY ISSUE~~

Page 1

**Accept**

Revision ID: PRELIM

**Item Name:** Bracket Assembly, RH

**Start Date:** 4/13/2011      **Start Qty:** 1.00

**Required Date: 4/18/2011      Req'd Qty: 1.00**

**Reference:**

**Cust Item ID:**

**Customer:**

**Approvals:**

**Process Plan:**

Date: 11-04-13

**Tooling:**

**Date:**

**QC:**

**Date:**




**SPC (Y/N):**

**Date:**

POSITIVE  
RECALL

Run Start

**Stop**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
<b>Draw Nbr</b>	<b>Revision Nbr</b>								
D4375	PA2								
100		0.00							
									
Mill Conv	<b>Memo</b>	0.00						AB11-4-13	
Conventional Milling Machine	mill 0.500" X 5.00" 6061T6 plate to 0.400" thick.								(1)
105		0.00							
									
Waterjet	<b>Memo</b>	0.00						AB11-4-13	(1)
FLOW CNC Waterjet	Cut as per dwg Prog. rev: PA2 Dwg rev: PA2								
110		0.00							
									
QC	QC2-Inspect parts off machine FAI/FAIB	0.00						AB11-4-13	(1)
Quality Control	<b>Memo</b>	0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			



**NOTE:** Date & initial all entries




**Work Order ID 68450**

Wednesday, April 13, 2011 2:56:55 PM

Page 2

Item ID: D4375-043 Accept  Setup Start   
Revision ID: PRELIM Stop   
Item Name: Bracket Assembly, RH  
Start Date: 4/13/2011 Start Qty: 1.00  Cust Item ID:  
Required Date: 4/18/2011 Req'd Qty: 1.00  Customer:  
Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_ Run Start   
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_ Stop 

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120  QC Quality Control	QC8- Inspect parts - second check  Memo Qty 1 per PA2	0.00  0.00		11.04.14					
130  Small Fab Small Fab	Memo -open holes to size and tap for helicoil -C'sink as per dwg	0.00  0.00		11/04/14					
140  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00							

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Abstract**

Page 3

**Accept**

**Setup Start**

**Stop**

**Start Date:** 4/13/2011      **Start Qty:** 1.00  
**Required Date:** 4/18/2011      **Req'd Qty:** 1.00

**Cust Item ID:**  
**Customer:**

**Reference:**

Run Start

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

**Stop**

Sequence ID/  
Work Center ID

## Operation Description

## Set Up/ Run Hours

## Tool ID

**Tool #**

## Plan Code

**Accept  
Qty**

## Reject Qty

## Reject Number

**Insp.  
Stamp**

150

Chemical Conversion Coat per QSI005 4.1

0.00

**HandFinish**

## Memo

0.00

## Hand Finishing

160

Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3

0.00

[illegible]

**Powdercoat**

## Memo

0.00

## Powder Coating

- Do not powder coat threaded holes.
- MASK threaded holes

170

QC3- Inspect Part Finish

0.00

**THE UNIVERSITY OF CHICAGO**

QC

## Memo

0.00

### Quality Control

172 QCS. - 8 w/lor/18 to Po2 Day only

14  
m 11/04/18

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 68450**

Wednesday, April 13, 2011 2:56:55 PM

Page 4

Item ID: D4375-043

Accept

Revision ID: PRELIM

Item Name: Bracket Assembly, RH

Start Date: 4/13/2011 Start Qty: 1.00

Required Date: 4/18/2011 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

180

Identify as per dwg &amp; Stock Location: \_\_\_\_\_

0.00



Packaging

Memo

0.00

Packaging

11/4/85

190

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

11/5/16

MK  
1-04-18

POSITIVE RECALL

EFFECTIVE 4/21/13 AUTH [Signature]

RELEASED [Signature] DATE 11/05/12

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Wednesday, April 13, 2011 2:57:02 PM

Page 1

Work Order ID: 68450

Parent Item: D4375-043

Parent Item Name: Bracket Assembly, RH



Start Date: 4/13/2011

Required Date: 4/18/2011

Start Qty: 1.00

Required Qty: 1.00

## Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
90296A554  Heli-Coil Insert		Purchased	No				Each	0.0000		3			
M6061T6B0.500X05.00 0  6061-T6 Bar .500 x 5.00		Purchased	No				f	18.0000		0.45			

M117425

SS 11/04/18

③

B11-4-13

### Location

MAT004

112154

### Loc Qty

18

18

### Loc Code

112154

①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



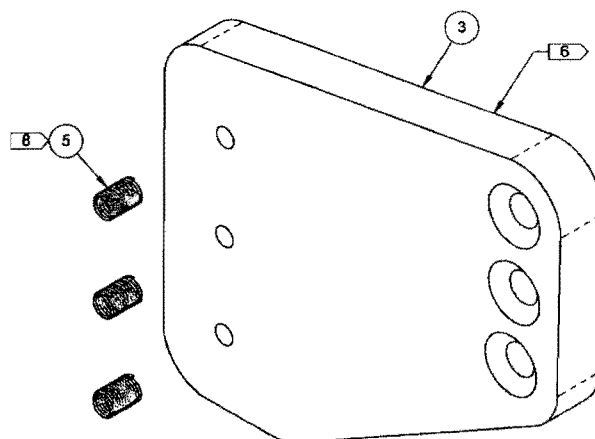


SHOP COPY 1

RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 68450

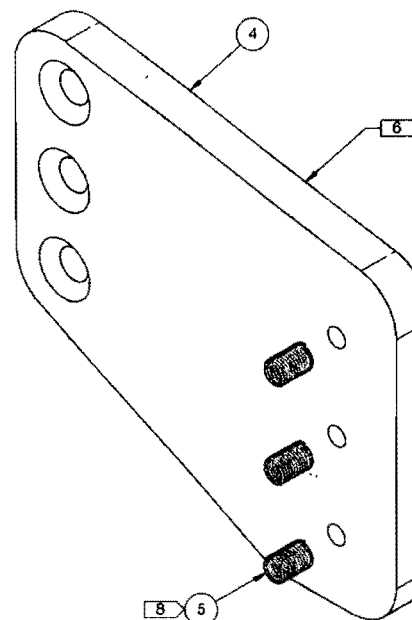
*1110413*

ITEM NO.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D4376-041	BRACKET ASSEMBLY, LH
2		X	D4376-043	BRACKET ASSEMBLY, RH
3	1		D4375-1	BRACKET, LH
4		1	D4375-3	BRACKET, RH
5	3	3	90296A554	HELICOIL



**D4375-041 BRACKET ASSEMBLY, LH**

*XC*



**D4375-043 BRACKET ASSEMBLY, RH**

*XI*

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "GREY SANDEXT" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.28 lbs
- 8) INSTALL HELICOILS AFTER POWDER COAT

**PRELIMINARY ISSUE**

*11.04.05*

PA2	NEW ISSUE	DC	11.04.05
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	11.04.05		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

DRAWING NO. **D4375** REV. PA2  
SHEET 1 OF 3

TITLE **BRACKET** SCALE  
NTS

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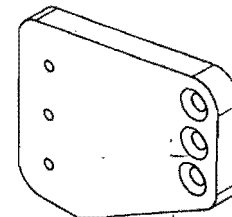
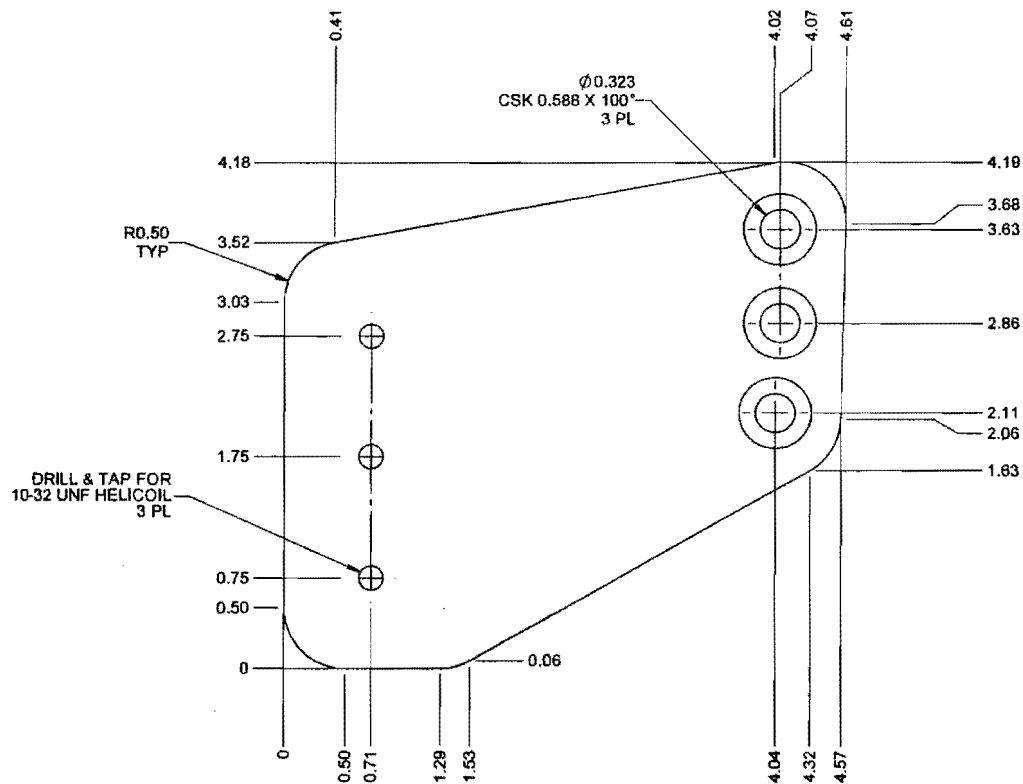
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O 68450

# **D4375-1 BRACKET, LH**

## **NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
REF DART SPEC M6061T6B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.26 lbs

DESIGN	DC	<b>DART AEROSPACE LTD</b>	
DRAWN	DC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	DC	DRAWING NO.	REV. PA
MFG. APPR.	DC	<b>D4375</b>	SHEET 2 OF
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

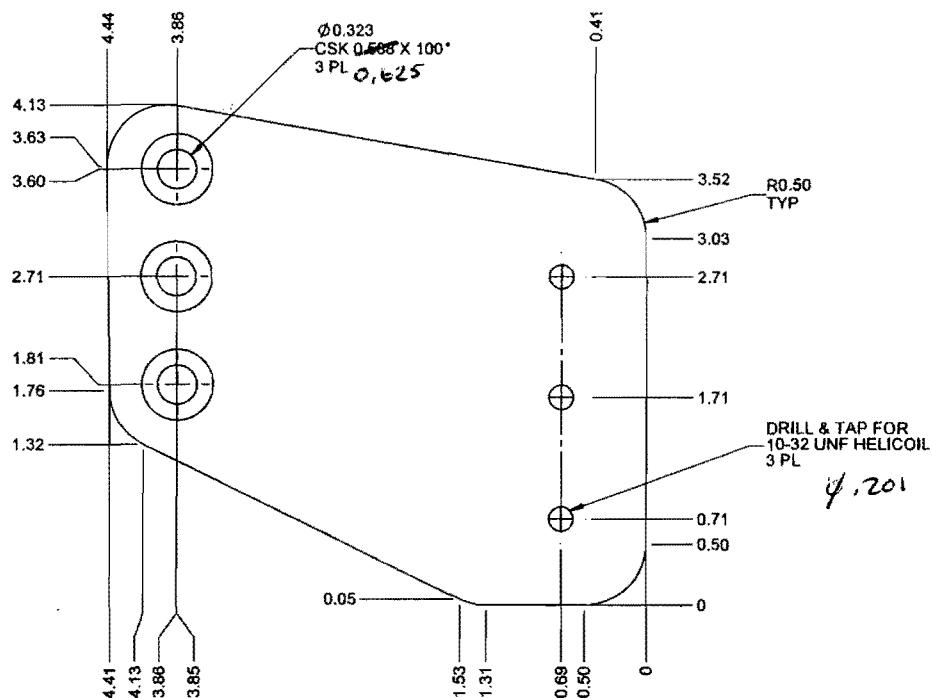
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





**D4375-3 BRACKET, RH**

**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
REF DART SPEC M6061T6B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.21 lbs

DESIGN	BC	<b>DART AEROSPACE LTD</b>	
DRAWN	BC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JE	DRAWING NO.	REV. PA2
MFG. APPR.		<b>D4375</b>	SHEET 3 OF 3
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

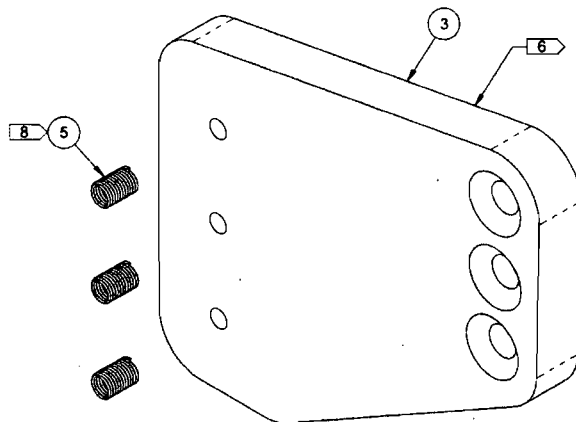
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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

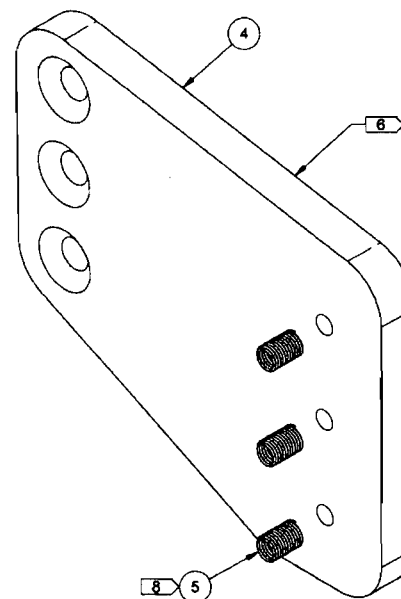
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

ITEM NO.	QTY. -041	QTY. -043	PART NUMBER	DESCRIPTION
1	X		D4375-041	BRACKET ASSEMBLY, LH
2		X	D4375-043	BRACKET ASSEMBLY, RH
3	1		D4375-1	BRACKET, LH
4		1	D4375-3	BRACKET, RH
5	3	3	90296A554	HELICOIL



**D4375-041 BRACKET ASSEMBLY, LH**



**D4375-043 BRACKET ASSEMBLY, RH**

**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT "GREY SANDTEX" (4.3.5.6) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 0.26 lbs
- 8) INSTALL HELICOILS AFTER POWDER COAT

A	NEW ISSUE	DC	11.04.05
REV.	DESCRIPTION	BY	DATE
DESIGN	DC		
DRAWN	DC		
CHECKED	DC		
MFG. APPR.	DC		
APPROVED	DC		
DE APPR.	DC		
DATE	11.04.05		

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

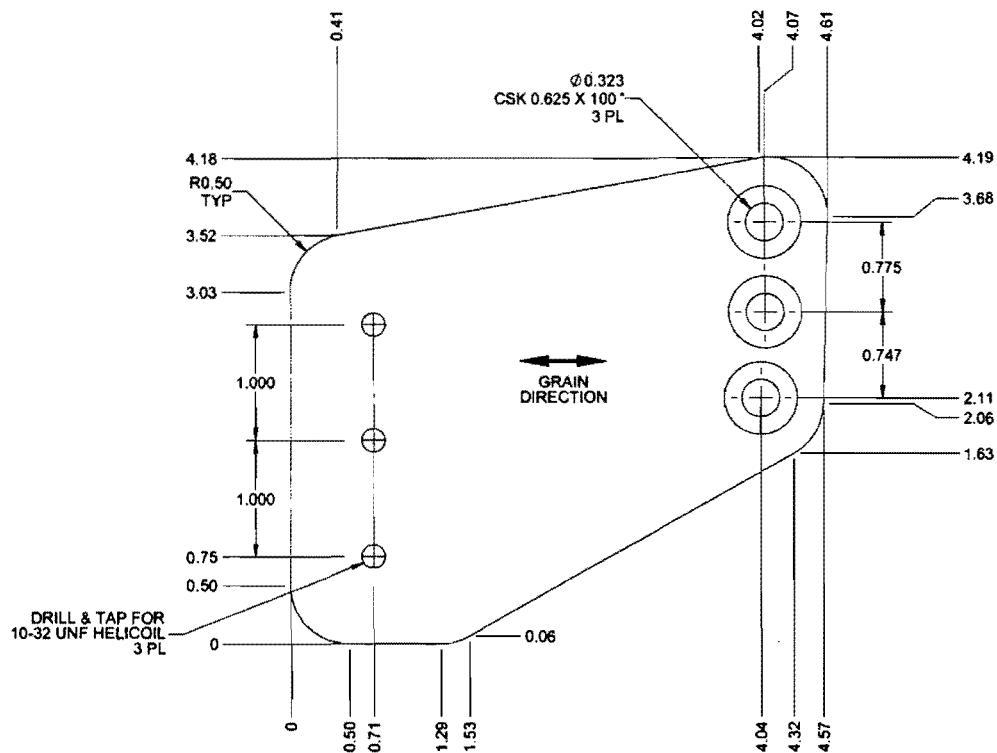
DRAWING NO. **D4375** REV. A  
SHEET 1 OF 3

TITLE **BRACKET** SCALE  
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**RELEASED**  
2011-05-18  
JMB





**D4375-1 BRACKET, LH**

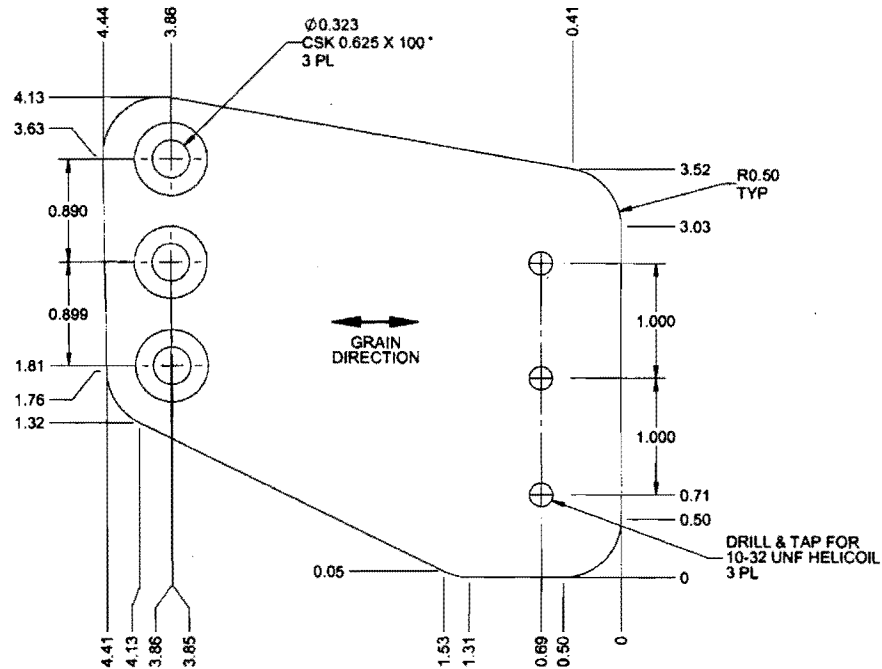
**NOTES:**

- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
REF DART SPEC M6061T6B
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.26 lbs

DESIGN	PC	<b>DART AEROSPACE LTD</b>	
DRAWN	PC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PC	DRAWING NO.	REV. A
MFG. APPR.	PC	<b>D4375</b>	SHEET 2 OF 3
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2011-05-10

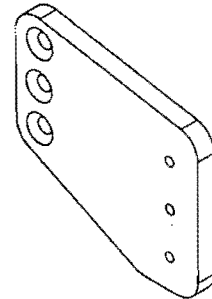




**D4375-3 BRACKET, RH**

- NOTES:**
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM BAR  
REF DART SPEC M6061T6B
  - 2) FINISH: N/A
  - 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
  - 4) UNITS: INCHES UNLESS OTHERWISE NOTED
  - 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
  - 6) IDENTIFICATION: N/A
  - 7) WEIGHT: 0.20 lbs

DESIGN	DC	<b>DART AEROSPACE LTD</b>	
DRAWN	DC	HAWKESBURY, ONTARIO, CANADA	
CHECKED	JE	DRAWING NO.	REV. A
MFG. APPR.	JE	D4375	SHEET 3 OF 3
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68450

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2011-05-10  
WFO

